

U.S. Serial No. 09/784,885
Reply to Office Action Dated: 10/28/2003
Family Number: P1998J135A

Page 8 of 13

REMARKS

The present invention is directed to gasoline pump fuel compositions which are formulated to have total emissions (evaporative emissions plus combustive emissions) no higher than those which would be permissible under current regulations. Thus, the fuels are low emissions gasolines. The fuels are characterized by a particular compositional profile.

The unleaded gasoline pump fuels of the present invention have a T_{10} , °F of < 140 ; a T_{90} , °F of < 330 preferably 315-330; a RVP, psi of ≤ 7.0 , preferably between 6.6 and 6.9, most preferably 6.6 maximum; a sulfur content, ppmw of ≤ 50 , preferably ≤ 35 more preferably not more than 25; an oxygen content, wt% of ≤ 3.5 , preferably ≤ 2 ; an aromatics content, vol% ≤ 35 , preferably not more than 28, more preferably between 12 to 20; an olefins content, vol% of ≤ 10 ; a benzene content vol% of ≤ 1.0 , preferably not more than 0.8, more preferably not more than 0.70; a paraffins content, vol% of ≤ 75 ; and an API gravity ° of ≥ 59 . The fuel can be additionally characterized as having a T_{50} , °F of $> 215 = < 220$.

The Examiner rejects claims 1-15 under 35 USC § 112, second paragraph, as being indefinite.

The phrase "which also possesses at least one of the following additional properties" is confusing in regard to claims 2, 4 and 9 in its use of the word "also".

Claims 2 and 4 have been cancelled.

Claim 9 has been amended to delete the term "also".

Claims 2 and 4 were considered confusing in that when the S, aromatics and olefins compounds are selected claims 2 and 4 create duplication problems.

U.S. Serial No. 09/784,885
Reply to Office Action Dated: 10/28/2003
Family Number: P1998J135A

Page 9 of 13

As previously indicated, claims 2 and 4 are cancelled.

Claim 6 was confusing in that it contained two definitions for RVP, one being RVP, psi ≤ 7.0 and the other being RVP, psi 6.6-7.0.

Claim 6 has been amended to delete reference to the second definition of RVP, psi 6.6-7.0.

Claim 8 was deemed confusing and indefinite in its use of the term "from 215°F to 218°F" that appears to be in conflict with claim 6 upon which it depends which recite $> 215^\circ\text{F}$ (i.e., greater than 215°F) as the lower range for the T_{50} property.

Claim 8 has been amended to delete the term "a T_{50} of from 215 to 218°F".

Claims 6 and 9-10 were deemed indefinite for the term $T_{90}^\circ\text{F}$ 315-330" in claims 9-10 in view of claim 6 which recites " $T_{90}^\circ\text{F} < 330$ " (i.e., less than 330°F) with which they appear to be in conflict.

Claim 9 has been amended to now recite that the $T_{90}^\circ\text{F}$ is 315-325 which conforms with and is in agreement with the term " $T_{90}^\circ\text{F} < 330$ " of claim 6.

Claim 10 has been rewritten as an independent claim and retains the term $T_{90}^\circ\text{F}$ of 315-330 as language which appears in an originally filed claim. The definition of the oxygen content has also been made more definite being amended from " ≤ 2 " to now read --1.5-2.9--.

It is believed claim 10, therefore is no longer indefinite in view of claim 6 nor in conflict with claim 6, claim 10 now being an independent claim.

U.S. Serial No. 09/784,885
Reply to Office Action Dated: 10/28/2003
Family Number: P1998J135A

Page 10 of 13

Claims 1 and 4-5 were deemed indefinite in that the recitation of "octane (RTM)/2 86-87" of claims 4-5 appeared to be in conflict with "octane (R+M)/2 > 87" of claim 1.

Claims 1-5 have been cancelled thus rendering this rejection moot.

Claims 1 (and those dependent therein) and claim 6 (and those dependent thereon) were rejected as indefinite in their use of the phrase "an unleaded EPA compliant gasoline pump fuel which provides total emissions no higher than those allowed under CARB regulations for Clean Burning Gasolines (CBG), Title 13 California Code of Regulations, section 2260 et seq" because the Examiner cannot determine the meter and bounds of the claims with respect of the gasoline with respect to the disclosed Regulations. The limits of the Regulations cannot be read into the claims from the specification.

Claim 1 has been deleted.

Claim 6 has been amended to delete reference to the Regulations, the claim being directed simply to "an unleaded gasoline pump fuel", reference to "EPA compliant" and/or "CARB regulations" being considered unnecessary.

The subject matter of claim 6 is an "unleaded gasoline pump fuel" possessing certain specifically recited properties.

A fuel meeting the properties of amended claim 6 or claim 10 (amended into independent form) or new claims 16, 17, 18 or 19 will be a gasoline fuel suitable for combustion in a spark ignition. In order for a fuel to be suitable for sales for combustion in an engine, i.e., to be a "gasoline pump fuel", it must meet, as a minimum, EPA regulations, so recitation that the present fuel meeting EPA regulation is unnecessary and merely a statement of the obvious and a redundancy.

U.S. Serial No. 09/784,885
Reply to Office Action Dated: 10/28/2003
Family Number: P1998J135A

Page 11 of 13

A fuel meeting the properties of claims 6, 10, 17, 18 or 19 will, similarly, be a low emissions (evaporative and combustive emission) fuel, so recitation in the claims that it meets a CARB Regulation is also considered unnecessary and not seen to add anything to the definition of the fuel as a composition of matter having the particular properties that are recited in the claims.

The Examiner rejects claims 1-9 and 11-15 under 35 USC § 103(a) as being obvious over admitted art, Jessup et al USP 5,837,126, USP 5,653,866, USP 5,593,567, and USP 5,288,393.

The Examiner points out that the Patentees teach that certain properties of gasoline provide certain characteristics or benefits: (1) decreases in the T_{50} (170-215°F) caused decreases in CO and hydrocarbon emissions; (2) decreases in olefin content (0-15 vol%) decreased NO_x emissions; (3) decreases in T_{10} (122-140°F) decreased NO_x emissions; (4) decreases in Reid Vapor Pressure (6.8-8 psi) decreased NO_x emissions; (5) increases an aromatics content (35-40 vol%) reduces hydrocarbon emissions; (6) increase in the paraffins content (40-90 vol%) decreases CO emissions; (7) decrease in T_{90} reduces CO emissions; (8) increases in Research Octane Number reduces hydrocarbon emissions.

The Examiner, however, indicates that claim 10 appears to contain allowable subject matter and would be allowable if the § 112 rejection are overcome.

Claim 10 has been rewritten to put it into independent form, to remove the indefiniteness and conflict with respect to claim 6 regarding the recitation of T_{90} °F being 315-330, to insert a recitation of the RVP psi as being ≤ 7 and to remove reference to EPA regulations and CARB regulations from flowed to claim 10 as a result of the dependency on claim 6.

U.S. Serial No. 09/784,885
Reply to Office Action Dated: 10/28/2003
Family Number: P1998J135A

Page 12 of 13

Based on the allowability of claim 10, it is believed claim 6 and new claims 16, 17, 18 and 19 should be similarly allowable.

Claims 6, 10 and 16 recite that the T_{10} °F is ≤ 140 ; that the aromatics content vol% is ≤ 35 ; that the olefins, vol% is ≤ 10 ; that the benzene, vol% is ≤ 1.0 , that the paraffins, vol% is ≤ 75 ; that the API° is ≥ 54 .

Whereas claim 10 recites that the T_{90} °F is 315 to 330, claim 6 recites that it is < 330 °F, but whereas claim 10 is silent as to T_{50} , claim 6 recites that it is $> 215 = < 220$ °F. Claim 16 parallels claim 10 but includes the further recitation that T_{50} °F is $> 215 \leq 220$.

Nothing in Jessup et al would teach, suggest or imply that the T_{50} °F should be or could be greater than 215 and less than or equal to 220°F when the T_{90} °F is simply identified as "less than 330°F".

Indeed, point 1 made by the Examiner in addressing the Jessup et al patents was that the T_{50} °F was decreased to 170 to 215°F, which clearly distinguishes the fuel of claim 6 (T_{50} °F $> 215 = < 220$) from the Jessup et al fuels (T_{50} °F 170-215°F).

Table 8 in the present text sets out numerous pump gasoline fuel compositions which have total emissions no higher than current (1998) California standards when evaporative emissions are accounted for.

Fuels with T_{50} °F above 215 and T_{90} °F < 330 account for numerous fuels which meet the emissions standard when evaporative emission are included.

Thus, it is believed that when due consideration is given to T_{50} °F in the present formulations, it is apparent that setting the T_{50} °F at $> 215 = < 220$ and the T_{90} °F at simply < 330 °F distinguishes over the Jessup et al references and that claim 6 which

U.S. Serial No. 09/784,885
Reply to Office Action Dated: 10/28/2003
Family Number: P1998J135A

Page 13 of 13


embraces this embodiment similarly distinguishes over Jessup et al and should be deemed patentable.

Applicant takes this opportunity to bring to the attention of the USPTO USP 6,132,479 which may be of interest in the present prosecution. A copy of the patent is attached.

This submission is made under 37 LFR 1.97(c)(2). The Commissioner is authorized to charge the fee set forth in 37 CFR § 1.17(p) to Deposit Account No. 05-1330.

It is requested that the Examiner reconsider this application in light of the amendments made to the claim and to the specification which incorporate into the specification certain of the limitations appearing in the originally filed claims and is believed not to constitute new matter or require an additional or different search, that she withdraw the rejections, allow the claims, and pass the case to issue in due course.

Respectfully submitted



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☒ Pursuant to 37 CFR 1.34(a)

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Attachment

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Sheet 1 of 1

INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)										Applicant									
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U. S. PATENT DOCUMENTS																			
Examiner Initial *		Document Number							Date	Name	Class	Sub-Class	Filing Date						
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